



LIST OF NEW HORIZON PATENTS AND PATENT APPLICATIONS

Patent/Application No.	Country	Filing Date	Issue Date	Inventors	Title
Pat. No. 5,604,109	U.S.A.	09-13-94	02-18-97	Fischetti	A Method for Exposing Group A Streptococci Antigens and an Improved Diagnostic Test for the Identification of Group Streptococcus.
Pat. No. 5,997,862 App No. 09/962,523	U.S.A.	10-31-97	12-7-99	Fischetti Loomis	Therapeutic treatment of Group A Streptococcal Infections
Pat. No. 6,017,528 App No. 09/257,025 (Cert. of Correction)	U.S.A.	02-25-99	01-25-00	Fischetti Loomis	Therapeutic Treatment of Group A Streptococcal Infections
Pat. No. 5,985,271 No. 09/257,026 (Cert. of Correction)	U.S.A.	02-25-99	11-16-99	Fischetti Loomis	Prophylactic and Therapeutic Treatment of App of Group A Streptococcal Infections
Pat. No. 6,506,954 App. No. 09/395,636 (Cert. of Correction)	U.S.A.	09-14-99	05-02-00	Fischetti Loomis	Use of Bacterial Phage Associated Lysing Enzymes for the Prophylactic and Therapeutic Treatment of Various Illnesses
Pat. No. 6,238,661 App. No. 09/497,495	U.S.A.	04-18-00	05-29-01	Fischetti Loomis	Use of Bacterial Phage Associated Lysing Enzymes for Treating Various Illnesses
Pat. No. 6,264,945 App. No. 09/482,992	U.S.A.	01-14-00	07-24-01	Fischetti Loomis	Parenteral Use of Bacterial Phage Associated Lysing Enzymes for the Therapeutic

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Treatment of Bacterial Infections

Pat. No. 6,056,955 App. No. 09/395,637	U.S.A.	09-14-99	05-02-00	Fischetti Loomis	Topical Treatment of Streptococcal Infections
App. No. 09/654,484	U.S.A.	09-01-00		Trudil	The Use of Phage Associated Lytic Enzymes For the Rapid Detection of Bacterial
App. No. 09/654,483	U.S.A.	09-01-00		Fischetti Loomis	A Composition for Treatment of A Bacterial Infection of An Upper Respiratory Tract
Pat. No. 6,254,866 App. No. 09/653,690	U.S.A.	09-01-00	07-03-01	Fischetti Loomis	Use of Phage Associated Lytic Enzymes For Treating Bacterial Infections of the Digestive Tract
App. No. 09/654,482	U.S.A.	09-01-00		Fischetti Loomis	A Composition for Treatment of a Bacterial Infection of the Digestive Tract
Pat. No. 6,277,399 App. No. 09/671,882	U.S.A.	09-28-00	08-21-01	Fischetti Loomis	Compositions Incorporating Bacterial Phage Associated Lysing Enzymes For Treating Dermatological Infections
App. No. 09/671,881	U.S.A.	09-28-00		Fischetti Loomis	A Composition for Treatment of Vaginal Bacterial Infections
App. No. 09/671,880	U.S.A.	09-28-00		Fischetti Loomis	A Composition for Treatment of An Ocular Bacterial Infection
Pat. No. 6,248,324	U.S.A.	09-28-00	06-19-01	Fischetti	Bacterial Phage Associated Lysing

App. No. 09/671,879

Loomis
Enzymes fo Treating Dermatological Infections

App. No. 09/671,878

Fischetti
Loomis
The Use of Bacterial Phage Associated Lytic Enzymes for Treating Dermatological Infections

App. No. 09/671,991

Fischetti
Loomis
A Composition for Treating Dental Caries Caused by Streptococcus Mutans

Pat. No. 6,335,012
App. No. 09/671,992

U.S.A. 09-28-00 01-01-02
Fischetti
Loomis
A Method for Treating Dental Caries Caused by Streptococcus Mutans

NOTE: THE USPTO PRINTED THE WRONG TITLE AND THE WRONG CLAIMS

Pat. No. 6,326,002
App. No. 09/671,990

U.S.A. 09-28-00 12-04-01
Fischetti
Loomis
The Use of Bacterial Phage Associated Lysing Enzymes for Treating Bacterial Infections of the Upper Respiratory System

App. No. 09/704,148

U.S.A. 11-02-00
Fischetti
Loomis
Trudil
The Use of Bacterial Phage Associated Lytic Enzymes to Prevent Food Poisoning

App. No. 09/560,650

U.S.A. 04-28-00
Fischetti
Loomis
The Use of Bacterial Phage Associated Lysing Enzymes for the Prophylactic and Therapeutic Treatment of Various Illnesses

App. No. 09/752,731

U.S.A. 01-03-01
Fischetti
Loomis
The Parental Use of Bacterial Phage Associated Lysing Enzymes For The Lysing Enzymes for the Therapeutic

App. No. 09/932,460	U.S.A.	07-13-01	Fischetti Loomis	Treatment of Bacterial Infections The Use of Bacterial Phage Associated Lysing Enzymes for Treating Various Illnesses
Prov. No. 60/324,089	U.S.A.	09-24-01	Fischetti Loomis	The Use of Bacterial Shuffled and Chimeric Phage Associated Lytic Enzymes for the Prophylactic and Therapeutic Treatment of Colonization and Infections caused By <i>Streptococcus Pneumoniae</i>
App. No. 09/960,472	U.S.A.	09-24-01	Fischetti Loomis	The Use of Bacterial Phage Associated Lysing Enzymes for the Prophylactic and Therapeutic Treatment of Colonization and Infections Caused by <i>Streptococcus pneumoniae</i>
App. No. 09/908,737	U.S.A.	07-19-01	Fischetti Loomis	Parenteral Use of Bacterial Phage Associated Lysing Enzymes for the Therapeutic Treatment of Bacterial Infections
App. No. 09/910,940	U.S.A.	07-13-01	Fischetti Loomis	The Use of Bacterial Phage Associated Lytic Enzymes to Prevent Food Poisoning
App. No. 09/844,435	U.S.A.	04-30-01	Fischetti Loomis	The Use of Bacterial Phage Associated Lysing Enzymes For

App. No. 09/846,688 U.S.A. 05-02-02

Treating Various Illnesses

Fischetti
Loomis

The Use of Bacterial Phage
Associated Lysing Proteins for the
Prophylactic and Therapeutic
Treatment of Various Illnesses

PCT/US99/04063 PCT 02-25-99

Fischetti
Loomis

A Means for the Prophylactic and
Therapeutic Treatment of
Streptococcal Infections

N/A INDIA
99909595.3 EPO
2000-600679 JAPAN
2001126302 RUSSIAN FEDERATION
not yet filed POLAND
P19917152-0 BRAZIL
514260 NEW ZEALAND
2001-700898 NORTH KOREA
200105279-4 SINGAPORE
N/A CANADA
145087 ISRAEL
28767/99 AUSTRALIA
N/A CHINA

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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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of

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Application Number

Filing Date

First Named Inventor

Group Art Unit

Examiner Name

Attorney Docket Number

1616

GAWA, R.

U.S. PATENT DOCUMENTS

Examiner Initials [*]	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
		6,264,945		Fischetti et al.	07-24-2001	
		6,254,866		Fischetti et al.	07-03-2001	
		6,248,324		Fischetti et al.	06-19-2001	
		6,238,661		Fischetti et al.	05-29-2001	
		6,056,955		Fischetti et al.	05-02-2000	
		6,056,954		Fischetti et al.	05-02-2000	
		6,017,528		Fischetti et al.	01-25-2000	
		5,997,862		Fischetti et al.	12-07-1999	
		5,985,271		Fischetti et al.	11-06-1999	
		5,688,501		Merril et al.	11-18-1997	
		4,957,686		Norris	09-18-1990	
		5,604,109		Fischetti et al.	02-18-1997	
		5,882,631		Suga et al.	03-16-1999	
		5,741,487		Asai et al.	04-21-1998	
		6,113,887		Mori et al.	09-05-2000	
		4,122,158		Schmitt	10-24-1978	
		3,983,209		Schmitt	09-28-1976	
		6,113,887		Mori et al.	09-05-2000	
		4,885,163		Shaar et al.	12-05-1989	

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FOREIGN PATENT DOCUMENTS

Examiner Initials [*]	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
			WO 97 02351 A		CIBA GEIGY AG, et al.	01-23-1997		
			WO 96 07329 A		UNIV. MARYLAND	03-14-1996		
			EP 0 510 907 A		AGRICULTURAL & FOOD RES	10-28-1992		
			WO 99 04809 A		AMBI INC	02-04-1999		

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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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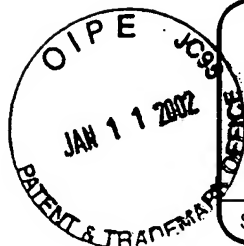
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Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	
		Filing Date	
		First Named Inventor	
		Group Art Unit	1619
		Examiner Name	BAWA
Sheet 3 of 5	Attorney Docket Number		

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Reisenger, et al. (1998) "Characterization of Escherichia coli lysis using a family of chimeric E-L Genes" <i>Fems Microbiol Letter.</i> 164(1) p.159-167	
		Sheehan MM, et al. (1997) "The lytic enzyme of the Pneumococcal Phage Dp-1: a chimeric lysis of intergeneric origin." <i>Mol. Microbiol.</i> 25(4) p. 717-725	
		Young et al. (2000) "Phages will out: strategies of host cell lysis." <i>Trends in Microbiology.</i> 8(4) p. 120-127	
		Garcia et al.(1997) "The Pneumococcal cell wall degrading enzymes: A modular design to create new lysins?" <i>Microb. Drug Resist.</i> 3(2): p. 199-211	
		Sheehan MM, et al., (1997) "The Lytic Enzyme of the Pneumococcal Phage Dp-1: a Chimeric Lysin of Intergeneric Origin" <i>Mol. Microbiol.</i> 25(4) p. 717-25	
		Garcia P, et al. (1997) "Bacteriophages of Streptococcus pneumoniae: a molecular approach" <i>Microb. Drug Resist.</i> 3(20) 165-76.	
		Sheehan, MM, et al.(1996) "Analysis of the catalytic domain of the lysis of the lactococcal bacteriophage Tuc2009 by chimeric gene assembling." <i>FEMS Microbiol.Lett.</i> 14(1): p. 23-28.	
		Sanz, JM, et al. (1996) "Construction of a multifunctional pneumococcal murein hydrolase by module assembly." <i>Eur. J. Biochem.</i> 235(3):601-5	
		Lopez R, et al. (1995) "Architecture and Domain Interchange of the Pneumococcal Cell Wall Lytic Enzymes" <i>Dev. Biol. Stand.</i> 85 p. 273-81.	

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Application Number

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Group Art Unit

Examiner Name

Attorney Docket Number

1619

BABA

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Croux, et al.(1993) "Interchange of Functional Domains Switches Enzymes Specificity: Construction of a chimeric pneumococcal-clostridial cell wall lytic enzyme." <i>Mol. Microbiology</i> . 9(5) p. 1019-25.	
		Diaz, E. et al. (1990) "Chimeric phage-bacterial enzymes: a clue to the modular evolution of genes. <i>PNAS</i> ." 87(20) p. 8125-9.	
		Diaz, E. et al.(1990) "Chimeric pneumococcal cell wall lytic enzymes reveal important physiological and evolutionary traits." <i>J. Biol. Chem.</i> 266(9) p. 5464-71.	
		Lopez, et al. (1997) "The pneumococcal cell wall degrading enzymes: A modular design to create new lysins?" <i>Microbiological Drug Resistance</i> . 3(2) p. 199-211.	
		Loessner, et al. (1999) "Evidence for a holin-like protein gene fully embedded out of frame in the endolysin gene of <i>Staphylococcus aureus</i> Bacteriophage." (1999) <i>Journal of Bacteriology</i> , 181(15) p. 4452-4460.	
		Witte, A et al. (1998) "Characterization of <i>Escherichia coli</i> lysis using a family of chimeric E-L genes." <i>FEMS Microbiol. Lett.</i> , 164(1), p. 159-167	
		Martin, Ana C et al (1998): "Functional analysis of the two-gene lysis system of the pneumococcal phage Cp-1 in homologous and heterologous host cells." <i>Journal of Microbiology</i> 180(2), p. 210-217	
		Oki Masaya et al. (1997) "Functional and structural features of the holin HOL protein of the <i>Lactobacillus plantarum</i> phage phi-gle: Analysis in <i>Escherichia coli</i> system." <i>Gene (AMSTERDAM)</i> 197(1-2) p 137-145.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet

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Application Number

Filing Date

First Named Inventor

Group Art Unit

Examiner Name

Attorney Docket Number

1619

BAWA

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

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		Young, Ry et al. (2000) "Phages will out: strategies of host cell lysis." <i>Trends in Microbiology</i> , 8(3) p 120-127.	
		Nelson, et al. (2001) "Prevention and elimination of upper respiratory colonization of mice by Group A Streptococci by using a bacteriophage lytic enzyme." <i>PNAS</i> . 98 (7) p. 4107-4112	
		Garcia, et al. (1987) "Purification and biochemical characterization of the pneumococcal bacteriophage Cp-1 lysin." <i>Journal of Virology</i> 61(8) p. 2573-2580.	
		Loessner, et al. (1996) "Modified Listeria bacteriophage lysin genes (ply) allow efficient overexpression and one-step purification of biochemically active fusion proteins." <i>Applied and Environmental Microbiology</i> . 62(8) p. 3057-3060	

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